to greyish-white. A few possess an imperfectly formed ring on their dorsal surface.

Cypraea reticulata Martyn. The individuals are small; the largest specimen is 56 mm. long.

Cypraea talpa Linnaeus. The largest individual in the collections is 66 mm. long.

Cypraea testudinaria Linnaeus. One specimen is in the museum collection. Its dorsal surface is light brown blotched with darker shades of this color.

Cypraea tigris Linnaeus. Two adult and one juvenile specimen are in the museum collection. The adults are 80 mm. long. One has a blotched brown dorsal color pattern, and the other a brown spotted pattern.

Cypraea ventriculus Lamarck. The largest individual of those in the collections is 55 mm. in length.

Cypraea vitellus Linnaeus. The marginal fillings of all of the specimens are dark brown. The largest shell is 60 mm. in length.

THE TYPE LOCALITY OF "*HELIX TUDICULATA* VAR. *TULARENSIS* HEMPHILL"

BY G. D. HANNA

On June 16, 1933, I had an opportunity to escape the summer heat of the San Joaquin Valley where some field work was in progress. The high land of the Sierra Nevada in the drainage of the various branches of Tule River was the most convenient place for a brief visit. As I approached Porterville Hemphill's "*tularensis*" came to mind with its vague locality, "Fraser's Mill" about which there has been much speculation. The nature and location of the "Mill" has not been recorded in conchological literature and some of us fear it might fall in the long list of "lost localities." Mr. J. B. Hardaway in Porterville told me I should seek an old settler in Springville, Mr. J. R. Talley. Mr. Talley gave me very complete information which was later verified by direct examination and through the help of Mr. George Dillon, of Mountain Home. This is essentially as follows:

The mill was built by J. B. Fraser about 1878 to convert a fine grove of giant sequoias into lumber. In 1886 it was sold to the

firm of Newport and Pease who ceased operating in 1888, and shortly thereafter the mill was destroyed by fire.

The mill site is about an eighth of a mile east of the packing station called Mountain Home, Tulare County, California. It is on a small flat of the north fork of Tule River, three miles west of Balch Park, a grove of giant trees owned by Tulare County and maintained as a free public park. The elevation of the mill site is 6,280 feet. Many parts of heavy machinery remain about the place and a young sequoia, five feet in diameter at the base, has grown completely around the old crank shaft of the mill engine.

Living snails were found to be fairly common in the near vicinity under logs, boards and pieces of bark, at or near the water's edge. At Camp Nelson on the middle fork of Tule River, elevation about 4,500 feet, they were even more abundant in similar habitat. Dense shade seemed to be preferred but was not essential. No good rock slides were found in the vicinity of either Mountain Home or Camp Nelson but everything indicated that *tularensis* does not require such shelter. The country rock in both places is massive granite and this, presumably, causes a scarcity of calcite which in turn is reflected in the excessive thinness of the shells. Some specimens have almost the thinness and texture of oiled tissue paper.

The relationship of the species is believed to be with *Helminthoglypta cypreophila* Newcomb, an inhabitant of the Sierra farther to the northward, but it is a thinner and usually much smaller shell. The coloration of the mantle is very similar in both.

It is not known when Hemphill made the original collection or how he happened to be in this section of the mountains. He separated the specimens he retained in his own collection into six lots and labelled four of them "Types." These are his numbers: 8772, 3 shells, "small elevated"; 8773, 3 shells, "medium elevated"; 8774, 4 shells, "depressed"; 8775, 3 shells, "large elevated." One of the remaining lots, 8776, is a single bandless shell and is indicated as, "Type lot." The other lot 8777 contains two shells, likewise labelled, "Type lot" and from "Cramer, Tulare County, Calif." It is significant that these last bear the notation "Very large, passing into *cypreophila* Newc." All of these 16 specimens have been segregated into the special collection

of type material at the California Academy of Sciences. The diameter varies from 19 to 26.5 mm., average 22.06 mm.; the altitude varies from 12.2 to 18.3 mm., average 14.11 mm.

References to the species in the literature are as follows:

Epiphragmophora tudiculata tularensis Hemphill, Pilsbry, Naut. Vol. 27, Sept. 1913, p. 49. "Perforate, very thin, yellowish citrine or light yellowish olive."

Epiphragmophora traskii tularica Bartsch, Pilsbry, Naut. Vol. 31, 1918, p. 108. [Mentioned in review of Bartsch's paper.]

Epiphragmophora traski tularensis Hemphill, Pilsbry, Naut. Vol. 11, Sept., 1897, p. 59. [Nomen nudum.]

Epiphragmophora tudiculata tularensis Hemphill, Pilsbry, Naut. Vol. 11, Sept., 1897, p. 60. [Nomen nudum.]

Epiphragmophora traskii tularensis Hemphill, Pilsbry, Man. Conch. Vol. 9, 1894, p. 199. [Nomen nudum. No loc.]

Epiphragmophora tudiculata tularensis Hemphill, Lowe, Naut. Vol. 30, 1916, pp. 93, 94. [Vernal Falls, Yosemite.]

Epiphragmophora traskii tularica Bartsch, Proc. U. S. Nat. Mus. Vol. 51, Des. 21, 1916, p. 615, pl. 116, figs. 1–3.

Epiphragmophora traskii proles Hemphill, Pilsbry, Man. Conch. Vol. 9, 1894, p. 199. [Nomen nudum. No loc.]

Epiphragmophora traskii proles Hemphill, Pilsbry, Naut. Vol. 11, Aug. 1897, p. 48. [Nomen nudum. Fraser's Mill.]

Epiphragmophora traskii proles Bartsch, Proc. U. S. Nat. Mus. Vol. 51, 1916, p. 616, pl. 116, figs. 4–6. Type P.A.N.S.P. No. 62270. Fraser's Mill. Review, Pilsbry, Naut. Vol. 31, 1918, p. 108.

Adult shells which I collected at Mountain Home vary in diameter from 18.8 mm. to 27.3 mm. and in altitude from 13.4 mm. to 17.2 mm. Those from Camp Nelson vary in diameter from 21.5 mm. to 27.8 mm., and in altitude from 13.9 mm. to 17.8 mm.

The species *proles* is believed to be entirely different from *tularensis*. The collection of the California Academy of Sciences contains eight specimens labelled "Types" by Hemphill and from "near Fraser's Mill, Tulare Co., California." All are greatly depressed and widely umbilicate. His catalog number is 8681. No characters were given for the form in the first two published references to the name; therefore, it should date from Bartsch, 1916. The specimen he figured as "Type" is higher than any of those selected by Hemphill and it has a much darker colored spiral band. I did not find the shell at all during my recent visit to the region of the type locality.